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ABSTRACT

This paper reports a follow-up study of 5-, 7-, and 9-year-old subjects who had participated in an investigation of the nature of children's and adults' ability to graphically represent expressive qualities (i.e., happy, sad, angry, loud, quiet, hard). In the original study, the use of literal representation (such as a smiling face on a tree) and non-literal representation (such as a drooping tree for sadness) was scored. The use of non-literal or expressive representation in drawing was found to progress from an initial ability to produce expressive forms based on single cross-modal similarities (such as big for loud) toward the use of more complex multi-dimensional types of expressive forms and the integration of literal and non-literal repesentation in the form of visual metaphors (such as a broken swing for sad). Ninety percent of the sample of the original study was seen at follow-up one year later. Subjects were asked to perform the same drawing tasks. For example, subjects were asked to draw a happy, a sad, and an angry tree so "someone else could tell them apart." In addition, one week later, a comprehension task was given in which subjects were asked to identify the expressive attributes in the drawings they had produced the previous week and previous year. Children were also asked to identify the expressive content of adults' drawings. At this time, a new sample of 4-year-old children performed both the drawing and comprehension tasks. Results are discussed. (Author/RH)

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Expressivity in Children's Drawings:

A Longitudinal Analysis

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EXPRESSIVITY IN CHILDREN'S DRAWINGS: A LONGITUDINAL ANALYSIS

Representation in children's drawings has been generally defined by researchers in terms of the literal representation of objects and persons. This is a limited view, however. As a result of this bias both the use of non-literal means of representation and the depiction of expressive attributes has received relatively little attention.

While a drawing can literally represent an object or a scene (e.g., a seascape) it can also represent such expressive attributes as psychological moods (e.g., sadness) and non-visual sensory qualities (e.g., quietness). Such qualities can be portrayed in a number of ways. They can be represented literally (e.g., a crying face) or non-literally through metaphorical expression. There are two basic ways that pictures can metaphorically express qualities such as moods; through abstract (non-representational)features, for example, dark colors or drooping lines can express sadness, large shapes can express loudness, and through content, for example, a barren tree or a broken swing can express sadness. In contrast to ordinary representation where a drawing of a sad person directly represents sadness, both abstract and content expression depict expressive qualities metaphorically. (See Figures 1 and 2)

Expressive features are frequently used in drawings. Werner and Kaplan (1963) have shown that adults both generally agree on their interpretation and are consistent in their use, for example, roundness and upwardness for positive qualities and angularity and downwardness for negative qualities.

Whether this agreement is universal or culture-specific awaits further study. However, while we know an increasing amount about the development of literal representation in drawing, little is currently known about the representation of expressive qualities and that is the focus of this paper.

Several years ago I did a study (Ives, 1981) of subjects ages 4 through 20 in which they were asked to depict expressive qualities (happy, sad, angry, loud, quiet, hard) through both objects and lines. The use of literal representation (such as a smiling face on a tree) and non-literal representation (such as a drooping tree for sadness) was scored. The use of non-literal or expressive representation in drawing was found to progress from an initial ability to produce expressive forms based on simple cross-model similarities (such as big for loud) toward the use of more complex multi-dimentional types of expressive forms and the integration of literal and non-literal representation in the form of visual metaphors (such as a broken swing for sad).

The present paper presents a follow-up study of the 5, 7, 9 year olds. Ninety percent of the original sample was seen one year later and asked to perform the same drawing tasks. They were given a sheet of 8½" x 21" paper divided into three 7" wide segments and a black felt tip pen. They were asked to draw, for example, a happy tree, a sad tree, and an angry tree so "someone else could tell them apart." This procedure was repeated once more for three other drawings on day one and for the remaining six drawings on day two. Each child thus produced twelve drawings (happy, sad, angry, quiet, loud, hard trees and lines). The order of presentation

was counter-balanced.

In addition, one week later, they were asked to identify the expressive attributes in their original drawings produced the previous week and the previous year. In this comprehension task, the original sheets were cut into 3 separate drawings and the order was randomized. Children were told that the drawings had gotten mixed up and to say which one was the "happy tree, angry tree, sad tree," etc. The order in which the drawings were named in this request was randomized and it never corresponded to the original request order. Therefore, if children simply repeated the order given to them they would be incorrect. Children were also asked to identify adult's drawings employing literal and non-literal strategies using similar procedures to the previous comprehension tasks. A new sample of 4 year olds also performed both the drawing and comprehension tasks.

I want to briefly cover three aspects of the data today. First, the second year trends and the new group of four year olds were remarkably consistent with the first year study. Together they present a picture of the development of expressive representation in drawing (see Table 1).

The general ability to depict expressive begins at least as young as age four and some recent pilot work indicates that two year olds possess some aspects of this ability. In this pilot study two year olds who were not yet creating drawings with literal representation (i.e., recognizable trees) were making their "loud" tree larger than their tree. This ability to depict expressive qualities continues to improve with a slight dip at the 9 - 11 age. The use of abstract expression is the predominant strategy. Literal representation is used some

in the early years, peaking at the 5 - 8 age and then declining. Content expression begins in the 9 - 11 age and increases in use through age 20.

Second, children were quite accurate in identifying the expressive qualities in their own drawings and their results generally parallel those of the adult judges (see Table 2). Third, the children's abilities to comprehend expressive qualities in this study parallels some previous findings (see Table 3). The literal drawings offered no obstacle for any children and these results offer a baseline of general comprehension of the tasks. The results for abstract expression parallel a study by Gardner (1974) in which he found that four year olds were around 66% accurate in making cross-modality matches (e.g., curved lines for happy, jagged lines for sad) based on abstract expression and scores improved in the elementary school year. A study by Kogan, Conner, Gross and Fava (1980) found that the ability to comprehend visual metaphores similar to what I am calling content expression developed during the elementary school years.

In summary, it appears that the origins of the ability to depict expressive qualities comes from two sources. First, the use of literal rendering of the facial expression associated with the quality -- but this strategy is never predominant and it is soon discarded. Second, the use of abstract expression based on what appears to be amodal or cross-modal similarities, (such as big for loud, small for quiet) or gestural expressions (such as jagged lines for angry). This initial abstract expression

could come from conscious cross-modal comparisons as in the visually big for the auditorily intense "loud", or the visual jagged for the emotionally intense "anger". But perhaps they are a reflection of a more general and amodal quality of intensity which is then directly depicted either visually or auditorily. Wagner and associates argued for this latter explanation in interpreting their findings of 11 month old infants' ability to make "metaphorical" matches between sounds and pictures. Bower (1974) and Gibson (1966) have also claimed there is an initial "supermodal" spatial reference system which allows for early auditory-visual coordination.

Further work will be needed to sort out this issue as well as refine our understanding of children's ability to depict expressive qualities. These forms are perhaps the basis for much of artistic representation as well as the clinical interpretation of drawings and they may also offer some additional insight into the development of metaphorical thinking.

References

Bower, T.G.R., Development in infancy. San Francisco; Freeman, 1974.

Gardner, H. Metaphors and modalities: How children project polar adjectives onto diverse domains. Child Development, 1974, 45, 84-91.

Gibson, J.J., The senses considered as perceptual systems. Boston: Houghton Mifflin, 1966.

Ives, W. Metaphorical exemplification in children's drawings. Paper presented at the Society for Research in Child Development, Boston, April 1981.

Kogan, N. Connor, K., Gross, A., and Fava, D., Understanding visual metaphor: Developmental and individual differences. Monographs of the Society for Research in Child Development, 1980, 45, (Serial No. 183 - Whole).

Wagner, S. Winner, E., Cicheti, D., and Gardner, H., "Metaphorical" mapping in human infants. Child Development, 1981, 52, 728-731.

Werner, H., and Kaplan, B. Symbol formation, New York: Wiley, 1963.

Figure 1 Examples of the Three Strategies of Expressive Drawings

HAPPY

4 yr. old

16 yr. old

16 yr. old

SAD

LITERAL EXPRESSION

ABSTRACT EXPRESSION

CONTENT EXPRESSION

Figure 2 Examples of Different Types of Abstraction Expression

Sad
DOWNWARD

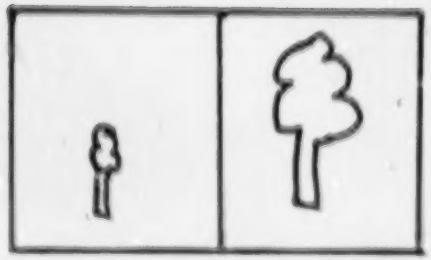
Angry
UPWARD

16 yr. old

Loud
THIN

Hard
THICK

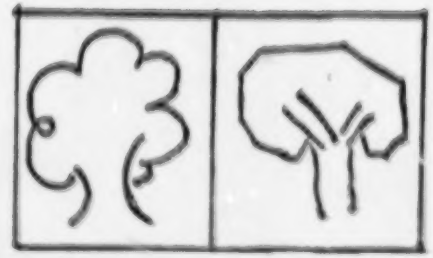
4 yr. old



Quiet
LITTLE

Loud
BIG

4 yr. old



Loud
CURVE

Hard
ANGLE

16 yr. old

Table 1 - Production of Expressive Drawings

Developmental Trends Based on Year One and Year Two Results

AGE	OVERALL ABILITY	USE OF ABSTRACT EXPRESSION	USE OF LITERAL REPRESENTATION	USE OF CONTENT EXPRESSION
4 yr.	beginning ability not dependent on literal representation 37% - 46% correct	abstract expression used more than literal representation 19% - 20%*	13%	rare
5 - 8 yrs.	increased ability 69% - 89%	rise in abstract expre. 21% - 46%	literal peaks 20% - 30%	rare
9 - 11 yrs.	slight decline 59% - 77%	continued rise 40% - 56%	literal declines 7% - 2%	begins 7% - 13%
13 - 20 yrs.	second increase 81% - 92%	continued rise 48% - 65%	slight rise 0 - 14%	continued increase 9% - 26%

*percentages are given as percentages of total responses

overall correct
age (yr. 1) $F(7,120)=13.29$, $p<.001$

age (yr. 2) $F(3,50)=10.93$, $p<.001$

literal representation
age (yr. 1) $F(7, 120)=7.72$, $p<.001$

age (yr. 2) $F(3,50)=5.41$, $p<.001$

abstract expression
age (yr. 1) $F(7,120)=9.37$, $p<.001$

age (yr. 2) $F(3,50)=7.22$, $p<.001$

content expression
age (yr. 1) $F(7,120)=11.81$, $p<.001$

age (yr. 2) $F(3,50)=7.21$, $p<.001$

Table 2

Children's Comprehension of Their Own Drawings (Percent Correct)

	AGE AT TESTING			
	4	6	8	10
1 week post test	74* (46)	80 (78)	88 (89)	81 (77)
1 year post test	--	66 (69)	85 (75)	81 (59)
age $F(2,40)=4.56$, $p<.02$	amount of post test delay - N.S.			

	TYPE OF ATTRIBUTE	
	PSYCHOLOGICAL (Happy-Sad-Angry)	NON-VISUAL SENSORY (Quiet-Loud-Hard)
1 week post test	85* (72)	70 (63)
1 year post test	88 (83)	78 (79)
attribute $F(5,200)=5.04$, $p<.001$	amount of post test delay - N.S.	

*Numbers in parenthesis are the percentages of correct responses (adult's comprehension of the children's drawings)

Table 3

Children's Comprehension of Adult Versions of Expressive Drawings

	Drawings of Happy, Sad, and Angry Trees			
STRATEGY	AGE			
	4	6	8	10
Literal Representation	100	100	100	100
Abstract Expression	75	95	100	100
Content Expression	64	64	81	75
strategy F(2,102)=25.29, p<.001		age - N.S.		

	Drawings Using Abstract Expression			
SUBJECT AND ATTRIBUTE	AGE			
	4	6	8	10
Lines				
Happy-Sad-Angry	80	65	78	92
Quiet-Loud-Hard	50	77	90	96
Trees				
Happy-Sad-Angry	75	95	100	100
Quiet-Loud-Hard	75	74	80	81
Total	71	78	88	92
age F(3,51)=3.81, p<.02	attribute F(5,255)=8.52, p<.001		subject x attribute F(5,255)=4.01, p<.002	